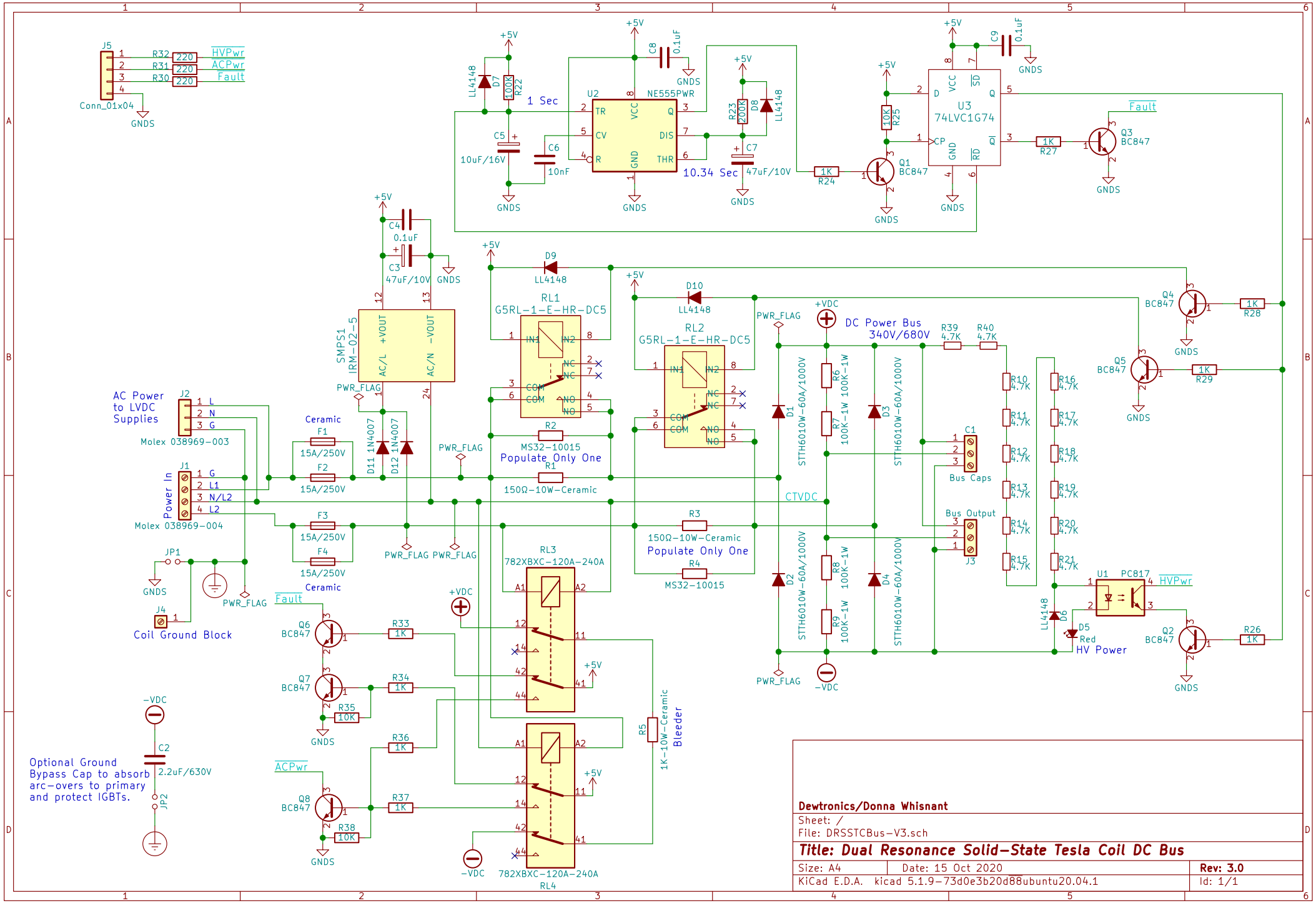
J5
Conn_01x04
R32 220
R31 220
R30 220
HVPwr
ACPwr
Fault
GNDS
+5V
D7 LL4148
R22 100K
1 Sec
U2 NE555PWR
TR CV R VCC GND Q DIS THR
C8 0.1uF
C5 10uF/16V
C6 10nF
D8 LL4148
R23 200K
C7 47uF/10V
10.34 Sec
U3 74LVC1G74
D CP SD RD VCC GND Q QI
C9 0.1uF
R25 10K
R24 1K
Q1 BC847
R27 1K
Q3 BC847
C4 0.1uF
C3 47uF/10V
SMPS1 IRM-02-5 +VOUT -VOUT AC/L AC/N
PWR_FLAG
D9 LL4148
RL1 G5RL-1-E-HR-DC5
D10 LL4148
RL2 G5RL-1-E-HR-DC5
R2 MS32-10015 Populate Only One
R1 150Ω-10W-Ceramic
R3 150Ω-10W-Ceramic Populate Only One
R4 MS32-10015
+VDC
DC Power Bus 340V/680V
R39 4.7K
R40 4.7K
Q4 BC847
R28 1K
Q5 BC847
R29 1K
AC Power to LVDC Supplies
J2
Molex 038969-003
J1 Power In
Molex 038969-004
F1 15A/250V
F2 15A/250V
F3 15A/250V
F4 15A/250V
Ceramic
D11 1N4007
D12 1N4007
JP1
J4
Coil Ground Block
D1 STTH6010W-60A/1000V
D2 STTH6010W-60A/1000V
D3 STTH6010W-60A/1000V
D4 STTH6010W-60A/1000V
R6 100K-1W
R7 100K-1W
R8 100K-1W
R9 100K-1W
C1
Bus Caps
J3
Bus Output
CTVDC
R10 4.7K
R11 4.7K
R12 4.7K
R13 4.7K
R14 4.7K
R15 4.7K
R16 4.7K
R17 4.7K
R18 4.7K
R19 4.7K
R20 4.7K
R21 4.7K
U1 PC817
LL4148 D6
D5 Red HV Power
Q2 BC847
R26 1K
RL3 782XBXC-120A-240A
RL4 782XBXC-120A-240A
Q6 BC847
Q7 BC847
Q8 BC847
R33 1K
R34 1K
R35 10K
R36 1K
R37 1K
R38 10K
R5 1K-10W-Ceramic Bleeder
-VDC
C2 2.2uF/630V
JP2
Optional Ground Bypass Cap to absorb arc-overs to primary and protect IGBTs.
Dewtronics/Donna Whisnant
Sheet: /
File: DRSSTCBus-V3.sch
Title: Dual Resonance Solid-State Tesla Coil DC Bus
Size: A4
Date: 15 Oct 2020
Rev: 3.0
KiCad E.D.A. kicad 5.1.9-73d0e3b20d88ubuntu20.04.1
Id: 1/1